

REMARKS/ARGUMENTS

Claims 1 and 4-14 are pending.

The Examiner has quite properly required that claim references in the specification (common in European practice) be removed. This has been done. Substitution for the deleted claim references has in some cases included the preamble of the reference claim.

Additionally, all references in the specification which relate to the deleted section lines in accordance with 37 CFR 1.84(h)(3) have been removed.

Applicant's attorney submits herewith a Substitute Specification together with the required Compare Copy. Applicant's attorney, who is registered to practice before the United States Patent Office, hereby certifies that no new matter has been added.

Claim Objections

Claims 11 and 12 have been objected to, the Examiner noting that the reference character "10" should be replaced with --2--. The correction has been made.

In claim 14 the spelling of the word "apparatus" has been corrected.

Claim Rejections 35 USC 112, second paragraph

The Examiner has rejected claims 2, 3, 5, 6 and 10-15 under 35 USC 112, second paragraph.

First, applicant submits that the objections to claims 2, 3 and 15 are moot as these claims have now been canceled.

In claim 5, the proper antecedent has been placed in the claim.

In claim 6, the amendment to claim 1 has placed "a bar" in the structure of the claim; the objection is now believed to be moot.

In claim 10, the phrase "in particular" has now been deleted. Further, amendment has been made to include the "at least one magnet" in the magnetic coupling.

Action on the Merits

Claims 1-3, 6, 9, 10, 14 and 15 have been rejected under 35 USC 102(b) as being anticipated by Keller (US 4,960,521).

Claims 1-3, 5, 7-10 and 15 have been rejected under 35 USC 102(b) as being anticipated by JP 58-119329 A.

Claims 1, 3, 5-10, 14 and 15 have been rejected under 35 USC 102(b) as being anticipated by Harker et al. (US 2,958,517).

Claims 1, 3-13 and 15 have been rejected under 35 USC 102(b) as being anticipated by de Bruyne (US 4,498,785).

In responding to the rejections, applicant will first set forth the invention of claim 1 as now amended. Thereafter, the references will be distinguished from amended claim 1, both as to anticipation and obviousness. Thereafter, as all claims depend from claim 1, which is believed to be allowable, allowance will be urged.

Summary of the Invention of Amended Claim 1

Claim 1 as amended relates to a magnetic stirring apparatus. The magnetic stirring apparatus includes an agitator, at least one permanent magnet, a float body, and a bar. The bar has an upper end, a lower end, an upper end section, and a lower end section. The bar tapers into a tip (or toe bearing) at the lower end. The agitator is arranged at the lower end section of the bar. Finally, the float body is arranged at the upper end section of the bar, and has the at least one permanent magnet connected to the agitator. With the float at the top and the bearing at the bottom, a vertically stabilized free-floating stirrer results.

References Distinguished

Keller (US 4,960,521) does not disclose a bar at which an agitator and a float body are arranged separately. Instead, it includes dialysis tubing 12, which does not act like a bar since it lacks rigidity. It is to be noted that the characteristic of rigidity is important because the bar must rest on the tip at its lower end to provide the requisite point bearing surface for supporting the stirrer when the point bearing contacts the vessel bottom in which stirring occurs.

JP 58-119329A does not disclose a bar tapering into a tip at its lower end. While Fig. 6 discloses a bar, this bar does not taper at its lower end to provide the required toe bearing of this invention.

It is to be further noted that it is possible that the stirrer will float. In this case the required bearing at the bottom of the float will not contact the bottom of the vessel. However, once mixing occurs, this surface of the medium can be pulled down in the center by the circulating liquid. An example of this can be seen in Fig. 15. In this case, the float and bar can be lowered so that contact will occur between the bearing in the bottom of the vessel in which the mixing occurs.

Harker et al. (US 2,950,517) does not disclose a float body arranged at the upper end section of the bar.

In the Office Action, the stirrer holder 36 is called a float body. However, according to the specification at column 2, lines 63-71, the holder 36 is in particular made of Teflon, a material having a specific gravity of 2 to 2.3 grams per centimeter cubed. This is heavier than water and not the density of a float.

Additionally, and presuming that holder 36 is a float, the holder 36 is not arranged in the upper end section of the bar. This is, however, essential in the teaching of the invention where the float body provides stabilization in the vertical direction. This is only possible where the float body is arranged above the center of gravity. The float must be located at the upper end section of the bar.

De Bruyne (US 4,498,785) does not disclose a bar at which an agitator and the float body are arranged separately. Further, de Bruyne '785 does not disclose the stirrer tapering into a tip at its lower end.

The Examiner is thanked for mentioning the prohibition against cumulative rejections of MPEP 706.02. Applicant anticipates an obviousness rejection and offers the following comments.

Harker '517 is the only reference that discloses a pointed bearing 40. This reference, however, does not contain any float body. The remaining documents do not contain

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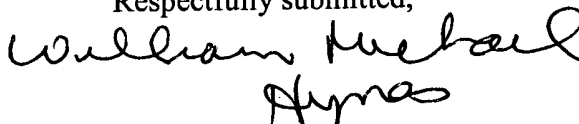
any stirrer with a provision for a tip or toe bearing.

The cited documents do not disclose or suggest the combination of the float and stirrer with a bottom tip or toe bearing which is vertically buoyantly stabilized by the tubular member with the float at the top and the stirrer and toe bearing depending downwardly in the fluid to be mixed.

In view of the foregoing, applicant submits that this application is now in condition for allowance. The issuance of a formal notification to that effect at an early date is requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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